PRINCIPLES OF EMPATHETIC COMMUNICATION DESIGN FOR SUSTAINABLE PRODUCT DESIGN

Andreas James Darmawan[1], Samuel Rihi Budi Utomo[2],
Helena Jessica Sinaga[3], Maria Nova Salhuteru[4], Segah Natalleo[5]

[1,2,3,4,5]Visual Communication Design, Jakarta International University
E-Mail: james.dar@jiu.ac

Abstract

Empathetic design principles in visual communication design emphasize a deep understanding of users' needs, wants, and experiences to create more meaningful and effective solutions. In the context of sustainable products, empathetic design can be a powerful tool to encourage more conscious and responsible consumption patterns. This study aims to explore how visual elements such as interfaces, information, and branding can be designed with the user's perspective and experience in mind. By using an empathetic design approach, designers can create visual communications that are not only aesthetically appealing, but also educate and inspire users to switch to more sustainable products. This study will provide insights into strategies and methods that can be used to integrate empathetic principles into the design process, as well as their impact on the adoption and use of sustainable products. Through this approach, it is hoped that visual communication design can play an important role in facilitating the transition to more conscious and responsible consumption patterns, supporting environmental and social sustainability.

Key words: empathetic design, visual communication, sustainable products

INTRODUCTION

The principles of empathetic design focus on a deep understanding of the needs, desires, and experiences of users. In this approach, designers not only consider functional and aesthetic aspects, but also understand and respond to the emotions and perspectives of users. Empathetic design involves

a process of in-depth research, observation, and direct interaction with users to identify and address real problems that users face. Thus, empathetic design aims to create products and services that not only satisfy functional needs but also provide meaningful and emotional experiences for users.

Visual communication design supported by the principles of empathy plays an important role in conveying messages and information in an effective and engaging way. By understanding the perspectives and needs of users, designers can create visual elements that are not only aesthetically appealing but also relevant and easily understood by the audience. Empathy allows designers to see the world from the user's perspective, so that users can create visual communication that is more intuitive, inclusive, and effective in conveying messages. In this context, empathy is the key to bridging communication between products or services and users. Empathetic visual communication design has great potential to drive sustainable products. By creating visuals that educate and inspire users about the benefits and importance of sustainable products, designers can influence more conscious and responsible consumption patterns. Design that focuses on the user experience can help overcome the psychological and cognitive barriers that often hinder the adoption of sustainable products. Through strong and relevant visual narratives, designers can encourage behavioural change and build awareness about the importance of sustainability in everyday life.

So far, product designers in Indonesia have often been more involved in product design principles such as ergonomics, sustainable materials, and innovative manufacturing techniques and technologies. However, the aspect of empathetic visual communication design is often less considered. In fact, strong visual communication can strengthen the sustainability message and make the product more attractive to users. Lack of attention to empathetic visual communication design can result in a lack of understanding and appreciation of the sustainability values carried by the product, thus inhibiting the adoption and use of the product. This study attempts to provide a case study that carries out the collaboration between product design and

Sewon International Industrial Design Fair (SIIDEF) 2024
"ACT LOCALLY ACT DESIGN GLOBLALLY"
Emphaty in Local Inovation
From local insights to global impact

164

visual communication design, by involving certain trends and works of designers as well as the meaning of the message that is currently being discussed. By combining the principles of empathetic design in visual communication, it is hoped that a solution can be created that can break the sales saturation point and encourage the adoption of sustainable products. This research will explore various strategies and approaches that can be used to create effective and empathetic visual communication, so as to increase user awareness and interest in sustainable products. Through synergistic collaboration between product design and visual communication design, it is hoped that products can be created that are not only innovative and sustainable, but also have strong and relevant visual appeal.

RESEARCH METHODS

The research method is carried out with a descriptive qualitative approach, namely by prioritizing the application of empathetic design principles that can be applied in visual communication design to support sustainable products. These principles include a human-centred approach, local cultural prototyping, and a business perspective, each implemented in three main applications: inclusive design, immersive visual communication, and sustainable product design. The following is a table of methods that combine empathetic design principles with the application of visual communication design:

Table 1 - Principles of Empathetic Communication Design for Sustainable Product Design

Empathetic Design Principles	Inclusive Design	Immersive Visual Communication	Product Design Sustainability
Human Centred	Create designs that are accessible to different user groups with different needs.	Using engaging and interactive visuals to increase user engagement.	Creating visual communications that educate users about the importance of sustainable products.
Local Culture Prototyping	Integrating local cultural elements into design to increase relevance and acceptance by local users.	Creating visuals that reflect local cultural identity and provide an authentic experience.	Using sustainable local materials and techniques in product design to support the local economy.
Business Perspective	Developing designs that are not only inclusive but also commercially profitable.	Implementing effective visual strategies to increase brand engagement and customer loyalty.	Promoting sustainability values as part of business strategy through visual communication.

Sewon International Industrial Design Fair (SIIDEF) 2024
"ACT LOCALLY ACT DESIGN GLOBLALLY"
Emphaty in Local Inovation
From local insights to global impact

165

Human Centred in the table illustrates the application of empathetic design principles that focus on the needs and experiences of users in the context of visual communication design. In this case, inclusive design means creating visual solutions that are accessible and relevant to a variety of user groups, including users with special needs, so that each individual feels included and cared for. (van der Bijl-Brouwer & Dorst, 2017) Immersive visual communication refers to the use of engaging and interactive visual elements to increase user engagement, allowing users to experience and understand the message more deeply. Finally, in the context of sustainability product design, a human-centred approach is used to educate and inspire users about the importance of sustainability through effective visual communication, thereby encouraging the adoption of more responsible and environmentally conscious consumption patterns. Local Culture Prototyping in the same table highlights the importance of integrating local cultural elements in visual communication design as part of the empathetic design principle. (Zhang, 2009)

In inclusive design, this means creating visuals that are relevant and easily accepted by the local community, taking into account the cultural values and symbols that users recognize and value. In the immersive aspect of visual communication, visualizations that reflect local cultural identity can provide a more authentic and engaging experience, allowing users to feel more connected to the product or message being conveyed. (Bazzano et al., 2017) Meanwhile, in the context of product design sustainability, involving local culture also means using local sustainable materials and techniques, which not only support the environment but also strengthen the local economy. Thus, design based on local cultural prototyping is able to create products and visual communications that are more relevant, accepted, and sustainable.

Business Perspective also in the table above explains how the principle of empathetic design is applied from a business perspective in visual communication design. (Zott & Amit, 2010) In the context of inclusive design, this approach means developing designs that are not only socially inclusive but also provide commercial value, by ensuring that the design can

Sewon International Industrial Design Fair (SIIDEF) 2024
"ACT LOCALLY ACT DESIGN GLOBLALLY"
Emphaty in Local Inovation
From local insights to global impact

166

appeal to a wider market and increase product accessibility. (Sihwinarti et al., 2024)

In immersive visual communication, the business perspective encourages the use of effective visual strategies to increase brand engagement and customer loyalty, which ultimately supports overall business goals. In terms of product design sustainability, this perspective focuses on promoting sustainability values as an integral part of business strategy, through visual communications that are attractive and educate consumers about the benefits and importance of sustainability, thereby enhancing brand image and attracting environmentally conscious consumers. (Darmawan et al., 2024) This approach ensures that the design not only functions socially but also has a positive impact on the business in the long term.

DISCUSSION AND DISCUSSION RESULTS

In an effort to create more relevant, memorable, and responsible products and services, three main approaches in visual communication design; Inclusive Design, Immersive Visual Communication, and Sustainable Product Design; play a crucial role. (Ahmad, 2018) Inclusive Design ensures accessibility and connectedness for all users, Immersive Visual Communication creates an immersive and interactive experience, while Sustainable Product Design promotes sustainability values. (Skerlos, 2015) Together, these three approaches enable designs that are not only aesthetically pleasing, but also have a positive social and environmental impact, supporting the transition towards more conscious and responsible consumption patterns.

1. **Inclusive Design**

    Inclusive Design refers to the application of empathetic design principles to create visual communications that are accessible and relevant to various user groups, including users with special needs. (Steinfeld & Maisel, 2012) Inclusive design aims to ensure that every individual, regardless of background, physical ability, or special needs, can understand and interact with the products or services presented. (Clarkson et al., 2013) This involves a deep understanding of diverse audiences and integrating features

Sewon International Industrial Design Fair (SIIDEF) 2024
"ACT LOCALLY ACT DESIGN GLOBLALLY"
Emphaty in Local Inovation
From local insights to global impact

167

that allow for greater accessibility, such as the use of contrasting colours, easy-to-read typography, and intuitive visual elements. For example, in the context of a website promoting sustainable products, inclusive design can be implemented by ensuring that the site is accessible to users with visual impairments through the use of alternative text on images, keyboard-accessible navigation, and support for screen readers. Additionally, the design can include content in multiple languages or the inclusion of visual elements that reflect cultural diversity, so that users from different backgrounds can relate to the message.

A prominent case in point is Nike's "FlyEase" campaign promoting a shoe specifically designed for individuals with disabilities. In this campaign, inclusive design was applied not only to the product itself, but also to its visual communication. (Fleming, 2021) Advertisements and promotional materials featured individuals with different needs, used inclusive visual language, and ensured that information about the product's specific features was accessible to everyone. By doing this, Nike not only demonstrated a commitment to inclusivity, but also managed to expand its user market by appealing to a more diverse audience, including users who may not have previously felt the product was relevant to them.

Figure 1. Inclusive Nike FlyEase Campaign.
Source: nike.com/id/flyease.

Sewon International Industrial Design Fair (SIIDEF) 2024
"ACT LOCALLY ACT DESIGN GLOBLALLY"
Emphaty in Local Inovation
From local insights to global impact

168

Inclusive design, therefore, is not just about meeting accessibility standards, but also about creating meaningful experiences that respect the diversity of users. In the context of sustainable products, this approach is especially important because it allows products and sustainability messages to reach and influence more people, including users who may have limited access to information. (Kouprie & Visser, 2009) As such, visually inclusive design plays a role in reinforcing sustainability messages and ensuring that these values are widely accepted across the spectrum of users.

2. Immersive Visual Communication

Immersive Visual Communication refers to the application of empathetic design principles in creating visual experiences that emphasize the role of the user, namely interactive value, which is able to engage users emotionally and intellectually (Slater & Sanchez-Vives, 2016). Immersive visual communication design aims to capture the attention of users in a deeper and more meaningful way, often through the use of dynamic, interactive and memorable visual elements (Van Dam et al., 2002). This approach allows users to not only see, but also feel and participate in the message being conveyed, thereby creating a stronger connection between the user and the product or service.

For example, in a sustainable product promotion campaign, an immersive approach can be applied through the creation of interactive videos or virtual reality (VR) experiences that allow users to directly experience the impact of their consumption choices on the environment. (Perez-Marcos, 2018) For example, a company that produces sustainable clothing can use VR to take users on a visual journey of the process of making eco-friendly clothing, from material selection, production processes, to distribution with a low carbon footprint. (Dombrowski et al., 2019) Users can virtually "experience" how their decision to purchase the product contributes to environmental preservation, wich can ultimately encourage users to make more conscious and responsinle choices.

Sewon International Industrial Design Fair (SIIDEF) 2024
"ACT LOCALLY ACT DESIGN GLOBLALLY"
Emphaty in Local Inovation
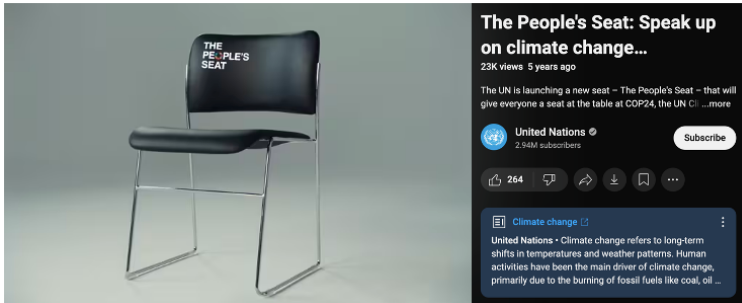*From local insights to global impact*

169

Figure 2. Immersive The People's Seat Campaign by the UN.
Source: news.un.org/en/story/2018/11/1026471.

One real-life example of the application of immersive visual communication is the UN's "The People's Seat" campaign at the COP24 Climate Change Conference. In this campaign, VR technology was used to bring participants and viewers into an environment affected by climate change, allowing users to see and feel the conditions faced by vulnerable communities. (Shepard, 2018) The use of immersive visual communication in this campaign successfully created a strong emotional impact, raising awareness and urgency among participants to take real action on climate changes for now and the future.

Immersive visual communication, therefore, not only attracts users' attention, but also creates a heartfelt experience that influences users' perceptions and actions. (Garcia et al., 2019) In the context of sustainable products, this approach is very effective in educating and motivating users to make better decisions, as users are directly confronted with the consequences of their consumption choices. By providing an immersive and memorable experience, immersive visual communication design can play an important role in reinforcing sustainability messages and inspiring positive behavioural in updated changes.

3. Sustainability Product Design

Sustainability Product Design highlights how empathetic design principles are applied to support sustainability through visual communication. This approach

Sewon International Industrial Design Fair (SIIDEF) 2024
"ACT LOCALLY ACT DESIGN GLOBLALLY"
Emphaty in Local Inovation
From local insights to global impact

170

focuses on creating visual designs that are not only aesthetically pleasing, but also educate and inspire users to understand and support environmentally friendly products. (Clark et al., 2009) Sustainability-oriented design seeks to convey a message about the importance of sustainability, educate consumers about the environmental impact of user choices, and promote more socially and environmentally responsible practices. For example, a brand that produces eco-friendly water bottles might use visual communication design that shows the life cycle of the user's product, from recycled raw materials, to the low-emission production process, to the final recycling of the product (Galati et al., 2022). This visual can be presented through clear and engaging infographics, or even through a video that details the lower carbon footprint of the user's product compared to conventional products. In this way, consumers are not only informed about the benefits of the product, but also given a deeper understanding of how the product contributes to environmental sustainability.

Figure 3. Sustainable Ice Bottle Packaging by Coca Cola.
Source: packagingoftheworld.com/2016/07/coca-cola-ice-bottle.

One example is the campaign carried out by Coca Cola by making bottles from ice cubes, an environmentally friendly idea that takes advantage of the synergy of serving soda in cold conditions . (Matthews, 1973) This idea uses ice as a packaging material that is integrated with the consumer

Sewon International Industrial Design Fair (SIIDEF) 2024
"ACT LOCALLY ACT DESIGN GLOBLALLY"
Emphaty in Local Inovation
From local insights to global impact

171

experience, especially in the context of cold drinks. In addition to reducing plastic usage, the concept also creates a strong and pleasing visual impact, increasing appeal and awareness of sustainability. (Ogilvy, 2016) It is an example of how innovative design can align environmental needs with user experience, while strengthening the brand image of a refreshing soda drink.

Another example is Adidas' "Run the Oceans" campaign, where shoes made from recycled ocean plastic were promoted using visual communication that emphasized the importance of keeping the oceans clean. (Green, 2022) The ads and user promotional materials used powerful images of polluted oceans, combined with a narrative about how every purchase of these shoes directly contributes to reducing ocean plastic waste. This well-designed visual communication is not only aesthetically pleasing but also conveys an important message about sustainability and inspires consumers to participate in the movement.

Figure 4. Sustainable Save the Oceans campaign by Adidas.
Source: adidas.co.id/en/runfortheoceans.

In the context of sustainable product design, visual communication design plays a key role in reinforcing and disseminating sustainability messages. By using educational and evocative visuals, companies can raise consumer awareness and motivate users to choose more environmentally friendly products. In addition, designs that consider sustainability can create a more positive and

Sewon International Industrial Design Fair (SIIDEF) 2024
"ACT LOCALLY ACT DESIGN GLOBLALLY"
Emphaty in Local Inovation
From local insights to global impact

172

responsible brand image, which in turn can increase customer loyalty and support sustainable business growth. Sustainability-focused visual communication design not only promotes products, but also invites consumers to play an active role in protecting the environment.

CONCLUSION

Empathic design principles, such as Human Centred, Local Culture Prototyping, and Business Perspective, offer a holistic approach to creating effective and relevant visual communication designs. With a focus on Human Centred, visual communication designs must be inclusive, ensuring accessibility for all users and considering the needs of various groups in their visual experiences. While Local Culture Prototyping allows the adaptation of designs according to local cultural values and symbols, making them more relevant and acceptable in certain communities. Business Perspective ensures that designs not only meet user needs but also support business goals by reaching a wider market and functioning effectively in a commercial context.

On the other hand, the application of inclusive, immersive, and sustainable visual communication design reflects a commitment to these empathetic design principles. Inclusive design focuses on accessibility and diversity, creating visual communication that is relevant to all users. Immersive visual communication involves a deep user experience, utilizing local cultural elements to strengthen the connection with the audience. While sustainable product design pays attention to environmental impacts by choosing environmentally friendly materials and efficient production processes. The combination of these approaches results in a design that is not only aesthetic but also functional and socially and environmentally responsible.

REFERENCES

Bazzano, A. N., Martin, J., Hicks, E., Faughnan, M., & Murphy, L. (2017). Human-centred design in global health: A scoping review of applications and contexts. *PLoS ONE*, *12*(11). https://doi.org/10.1371/journal.pone.0186744

Sewon International Industrial Design Fair (SIIDEF) 2024
"ACT LOCALLY ACT DESIGN GLOBLALLY"
Emphaty in Local Inovation
From local insights to global impact

173

Clark, G., Kosoris, J., Hong, L. N., & Crul, M. (2009). Design for sustainability: Current trends in sustainable product design and development. *Sustainability*, *1*(3), 409–424. https://doi.org/10.3390/su1030409

Clarkson, P. J., Coleman, R., Keates, S., & Lebbon, C. (2013). *Inclusive design: Design for the whole population*.

Darmawan, A. J., Rihi, S., Utomo, H., Min, P., Yoo, H., Losung, A. S., Satianegara, A. C., Oranto, R. Z., & Komunikasi, D. (2024). Pelatihan Komprehensif dan Memberdayakan Media Sosial pada CGA. *Jurnal Lentera Widya*, *5*(2), 111–118. https://jurnal.idbbali.ac.id/index.php/lenterawidya/article/view/1145

Dombrowski, M., Smith, P. A., Manero, A., & Sparkman, J. (2019). Designing inclusive virtual reality experiences. In Virtual, Augmented and Mixed Reality. *Multimodal Interaction: 11th International Conference, VAMR 2019*, 33–43.

Fleming, Sean. (2021, February 10). *Nike's hands-free shoe is a step forward for inclusive clothing*. Https://Www.Weforum.Org/Agenda/2021/02/Nike-Hands-Free-Shoe-Disability-Inclusive-Clothing/.

Galati, A., Alaimo, L. S., Ciaccio, T., Vrontis, D., & Fiore, M. (2022). Plastic or not plastic? That's the problem: Analysing the Italian students purchasing behavior of mineral water bottles made with eco-friendly packaging. *Resources, Conservation and Recycling*.

Garcia, S., Laesker, D., Caprio, D., Kauer, R., Nguyen, J., & Andujar, M. (2019). An immersive virtual reality experience for learning Spanish. In Learning and Collaboration Technologies. *Ubiquitous and Virtual Environments for Learning and Collaboration: 6th International Conference*, 151–161.

Green, Ricki. (2022, May 13). *Adidas Launches New 'Run For The Oceans' Global Campaign Via Augusto To Help End Plastic Waste*. Https://Campaignbrief.Com/Adidas-Launches-New-Run-for-the-Oceans-Global-Campaign-via-Augusto-to-Help-End-Plastic-Waste/.

Kouprie, M., & Visser, F. S. (2009). A framework for empathy in design: stepping into and out of the user's life. *Journal of Engineering Design*, *20*(5), 347–448.

Sewon International Industrial Design Fair (SIIDEF) 2024
"ACT LOCALLY ACT DESIGN GLOBLALLY"
Emphaty in Local Inovation
From local insights to global impact

174

Matthews, L. M. (1973). The Archives of the Coca-Cola Company. In *Georgia Archive* (Vol. 1, Issue 2).

Ogilvy, & M. Colombia. (2016, July 22). *Coca-Cola Ice Bottle*. Https://Packagingoftheworld.Com/2016/07/Coca-Cola-Ice-Bottle.Html.

Perez-Marcos, D. (2018). Virtual reality experiences, embodiment, videogames and their dimensions in neurorehabilitation. *Journal of NeuroEngineering and Rehabilitation*, *15*(1). https://doi.org/10.1186/s12984-018-0461-0

Shepard, Dan. (2018, November 23). *#TakeYourSeat at the UN Climate Change Conference: a way for all people to join the global conversation*. Https://News.Un.Org/En/Story/2018/11/1026471/.

Sihwinarti, D., Darmawan, A. J., Heptariza, A., Made, I., Ramayu, S., & Erawati, K. N. (2024). Zero Waste Circular Economy: Transforming Chocolate Production into Chocolate Jam in Bali. *Jurnal Ekonomi*, *13*(2), 1–14. https://doi.org/10.54209/ekonomi.v13i02

Skerlos, S. J. (2015). Promoting effectiveness in sustainable design. *Procedia CIRP*, *29*, 13–18. https://doi.org/10.1016/j.procir.2015.02.080

Slater, M., & Sanchez-Vives, M. V. (2016). Enhancing our lives with immersive virtual reality. In *Frontiers Robotics AI* (Vol. 3, Issue DEC). Frontiers Media S.A. https://doi.org/10.3389/frobt.2016.00074

Steinfeld, E., & Maisel, J. (2012). *Universal design: Creating inclusive environments.* John Wiley & Sons.

Van Dam, A., Laidlaw, D. H., & Simpson, R. M. (2002). Experiments in Immersive Virtual Reality for Scientific Visualization. In *Computers & Graphics* (Vol. 26).

van der Bijl-Brouwer, M., & Dorst, K. (2017). Advancing the strategic impact of human-centred design. *Design Studies*, *53*, 1–23. https://doi.org/10.1016/j.destud.2017.06.003

Zott, C., & Amit, R. (2010). Business model design: An activity system perspective. *Long Range Planning*, *43*(2–3), 216–226. https://doi.org/10.1016/j.lrp.2009.07.004

Sewon International Industrial Design Fair (SIIDEF) 2024
"ACT LOCALLY ACT DESIGN GLOBLALLY"
Emphaty in Local Inovation
From local insights to global impact

175